

# OCCIDENTAL CHEMICAL MATERIAL SAFETY DATA SHEET

MSDS NUMBER: M4820

MSDS DATE: 05-11-89

PRODUCT NAME: **CAUSTIC SODA-BEADS**

24 HOUR EMERGENCY PHONE: (716) 278-7021

## I. PRODUCT IDENTIFICATION

### HMIS HAZARD RATINGS

HEALTH HAZARD 3 FIRE HAZARD 0 REACTIVITY 2  
Based on the National Paint & Coatings Association HMIS rating system.

### SARA/TITLE III HAZARD CATEGORIES (See Section X)

Immediate (ACUTE) Health: YES

Reactive Hazard: YES

Delayed (Chronic) Health: NO

Sudden Release of Pressure: NO

Fire Hazard: NO

MANUFACTURER'S: Occidental Chemical Corporation  
NAME AND : Customer Service, Occidental Tower, Telephone  
ADDRESS : P O Box 809050, Dallas, Texas 75380 (1-800-752-5151)

CHEMICAL NAME: Sodium hydroxide CAS NUMBER: 1310-73-2

SYNONYMS/COMMON NAMES: Sodium Hydroxide-Dry

CHEMICAL FORMULA: NaOH

DOT PROPER SHIPPING NAME: Sodium Hydroxide, dry

DOT HAZARD CLASS: Corrosive material

DOT I.D. NUMBER: UN1823

DOT HAZARDOUS SUBSTANCE: RQ 1000#

## II. HEALTH HAZARD INFORMATION

### EMERGENCY AND FIRST AID PROCEDURES

#### EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. Washing eyes within several seconds is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

#### SKIN:

IMMEDIATELY wash contaminated areas with plenty of water for at least 15 minutes. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. SEEK MEDICAL ATTENTION IMMEDIATELY.

#### INHALATION:

Remove to fresh air; if breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION.

CAS = Chemical Abstract Service Number

PEL = OSHA Permissible Exposure Limit

TLV = ACGIH Threshold Limit Value, Current

ND = No relevant information found or not available

NA = Not applicable

CORP = Corporate Exposure Limit

= See Chronic Effects Information

IMPORTANT The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY, OR GUARANTY, EXPRESS OR IMPLIED IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures safe handling and use remains the responsibility of the customer. No suggestions for use are intended as and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any Federal, State or local laws.

## II. HEALTH HAZARD INFORMATION (Continued)

### INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. If available, give several glasses of milk. If vomiting occurs spontaneously, keep airway clear. SEEK MEDICAL ATTENTION IMMEDIATELY.

### ROUTES OF EXPOSURE

### INHALATION:

Airborne concentrations of dust, mist, or spray of this product may cause damage to the upper respiratory tract and the lung tissue which could produce chemical pneumonia depending upon severity of exposure.

### SKIN:

This product is destructive to tissues contacted and produces severe burns. A latent period may exist between exposure and sense of irritation.

### EYE CONTACT:

This product is destructive to eye tissues on contact. Will cause severe burns that result in damage to the eyes and even blindness.

### INGESTION:

This product, if swallowed, can cause severe burns and complete tissue perforation of mucous membranes of the mouth, throat, esophagus, and stomach.

### EFFECTS OF OVEREXPOSURE

### ACUTE:

Corrosive to all body tissues with which it comes in contact. The effect of local dermal exposure may consist of multiple areas of superficial destruction of the skin or of primary irritant dermatitis. Similarly, inhalation of dust, spray, or mist may result in varying degrees of irritation or damage to the respiratory tract tissues and an increased susceptibility to respiratory illness. These effects only occur when the TLV is exceeded.

### CHRONIC:

No known chronic effects.

### TOXICOLOGY DATA:

Caustic soda is a corrosive material.

Acute Oral Toxicity:	LD50 (rat)	140-340 mg/kg
Acute Dermal Toxicity:	LD50 (rabbit)	1350 mg/kg

### Human Dermal Exposure

Regardless of concentration, the severity of damage and extent of its irreversibility increases with length of contact time. Prolonged contact with even dilute sodium hydroxide solution can cause a high degree of tissue destruction. The latent period, following skin contact during which no sensation of irritation occurs, varies from several hours for 0.4 - 4% solutions to 3 minutes with 25- 50% solutions.

### III. IMPORTANT COMPONENTS

MATERIAL OR COMPONENT CAS NUMBER / NAME	EXPOSURE LIMITS	PERCENT	
1310732	PEL=2 mg/m3, Ceiling	VOL	ND
Sodium hydroxide (Na(OH))	TLV=2 mg/m3, Ceiling	WT	97.60

Common Names:  
CAUSTIC SODA

Listed On(List Legend Below):  
02 13 16 18

See Section II

All components of this product that are required to be on the TSCA  
Inventory are listed on the inventory.  
Not listed as carcinogen - IARC, NTP, OSHA

#### LIST LEGEND

2 SARA TOXIC CHEM, SECTION 313	13 PA ENVIROMENTAL HAZ SUBSTANCE
16 NJ WORKPLACE HAZ SUBSTANCE LST	18 NY HAZARDOUS SUBSTANCES

### IV. FIRE AND EXPLOSION DATA

FLASH POINT: NA AUTOIGNITION TEMPERATURE: Nonflammable

FLAMMABLE LIMITS IN AIR, % BY VOLUME- UPPER: NA  
LOWER: NA

#### EXTINGUISHING MEDIA:

This product is not combustible. Water spray, foam, carbon dioxide, or dry chemical may be used in areas where the product is stored.

#### SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing. Avoid direct contact of this product with water as this can cause violent exothermic reaction.

#### UNUSUAL FIRE AND EXPLOSION HAZARD:

See Reactivity (Section VII).

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## V. SPECIAL PROTECTION

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### VENTILATION REQUIREMENTS:

Special ventilation is not required under normal use. Use local exhaust ventilation where dust, mist, or spray may be generated.

NOTE: Where carbon monoxide or other reaction products may be generated, special ventilation may be required.

### SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

#### RESPIRATORY:

Respiratory protection is not required under normal use. Use NIOSH/MSHA approved respirator where dust, mist, or spray may be generated.

#### EYE:

Wear chemical safety goggles plus full face shield to protect against splashing.

#### GLOVES:

Chemical Resistant gloves should be worn and may be decontaminated by washing with mild soap and water. Natural and butyl rubber have been suggested.

#### OTHER CLOTHING AND EQUIPMENT:

Impervious protective clothing and chemically resistant safety shoes should be worn to minimize contact. Wash contaminated clothing with soap and water and dry before reuse. Showers and eyewash facilities should be in close proximity.

### MONITORING EXPOSURE

#### BIOLOGICAL:

NA

#### PERSONAL/AREA:

NIOSH Analytical Method No. 7401.

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## VI. PHYSICAL DATA

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BOILING POINT @ 760 mm Hg: 1388°C

FREEZING POINT: 318°C

VAPOR PRESSURE: 42 mm Hg @ 1000°C

SPECIFIC GRAVITY (H<sub>2</sub>O=1): 2.13 @ 20°C

SOLUBILITY IN H<sub>2</sub>O % BY WT: Completely Soluble

VAPOR DENSITY (Air=1): NA

APPEARANCE AND ODOR: Clear white solid with no distinct odor.

pH: 0.01 moles/liter has pH. 12.0

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## VII. REACTIVITY DATA

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### CONDITIONS CONTRIBUTING TO INSTABILITY:

Under normal conditions of use, this material is stable.

### INCOMPATIBILITY:

See Section VIII. Avoid contact with water. This product may be added slowly to water or acids with dilution and constant stirring to avoid a violent exothermic reaction. When handling this product, avoid contact with aluminum, tin, zinc, and alloys containing these metals. Do not mix with strong acids without dilution and agitation to prevent violent or explosive reaction. Avoid contact with leather, wool, acids, organic halogen compounds, and organic nitro compounds.

### HAZARDOUS DECOMPOSITION PRODUCTS:

None known.

### CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Not known to polymerize.

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## VIII. HANDLING AND STORAGE

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### HANDLING AND STORAGE PRECAUTIONS:

Do not get into eyes, on skin, on clothing.

Avoid breathing dust, mists, or spray.

Do not take internally.

Use with adequate ventilation and employ respiratory protection when exposure to dust, mist or spray is possible.

When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing.

Wash thoroughly after handling or contact - exposure can cause burns which are not immediately painful or visible.

Keep container closed.

Product can react violently with water, acids, and other substances - read Special Mixing and Handling Instructions below carefully before using.

Product is corrosive to tin, aluminum, zinc and alloys containing these metals, and will react violently with these metals in powder form.

Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI Z117.1-1977).

### SPECIAL MIXING AND HANDLING INSTRUCTIONS:

Product can react violently with water. Considerable heat is generated when product is mixed with water. Therefore, when making solutions always carefully follow these steps:

ALWAYS wear ALL protective clothing described above. NEVER add water to product. ALWAYS add product - with constant stirring - slowly to surface of lukewarm (80-100°F) water, to assure product is being completely dissolved as it is added.

If product is added too rapidly, or without stirring, and becomes concentrated at bottom of mixing vessel, excessive heat may be generated, resulting in DANGEROUS boiling and spattering, and a possible IMMEDIATE AND VIOLENT ERUPTION of highly caustic solution.

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## VIII. HANDLING AND STORAGE (Continued)

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### SPECIAL MIXING AND HANDLING INSTRUCTIONS: (Continued)

NOTE: 50 pounds of product dissolved in 30 gallons of 90°F water will raise temperature of resulting solution to approximately 180°F. Never add more product than can be absorbed by solution while maintaining temperature below 200°F (@ sea level) to prevent boiling and spattering.

Product can react EXPLOSIVELY with acids, aldehydes, and many other organic chemicals - when mixing product with solutions containing such chemicals, follow all of above mixing instructions, and add product very gradually, while stirring constantly.

ALWAYS empty and clean containers of all residues before adding product, to avoid possible EXPLOSIVE reaction between product and unknown residue.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state, and DOT regulations. All residual caustic soda should be removed from containers prior to disposal.

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## IX. ENVIRONMENTAL PROCEDURES

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### STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Leaks should be stopped. Spills should be contained and cleaned up immediately. Liquid spills should be removed by using a vacuum truck. Solid spills should be scooped up and placed in approved containers for disposal. Neutralize remaining traces of material with any dilute inorganic acid such as hydrochloric, sulfuric, nitric, phosphoric or acetic acid. The spill area should then be flushed with water followed by liberal covering of sodium bicarbonate. All clean-up material should be removed and placed in approved containers, labeled and stored in a safe place to await proper treatment or disposal. Spills on areas other than pavement, e.g., dirt or sand, may be handled by removing the affected soils and placing in approved containers. Persons performing clean-up work should wear adequate personal protective equipment and clothing. Spills or releases should be reported, if required, to the appropriate local, state and federal regulatory agencies.

CAUTION: Caustic Soda may react violently with acid water.

### WASTE DISPOSAL METHOD:

The materials resulting from clean-up operations may be hazardous waste and, therefore, subject to specific regulations. Package, store, transport, and dispose of all clean-up materials and any contaminated equipment in accordance with all applicable federal, state, and local health environmental regulation. Shipments of waste materials are subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of each waste material and should be performed by competent and properly permitted contractors. Ensure that all responsible federal, state, and local agencies receive proper notification of spill and disposal methods.

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## X. ADDITIONAL INFORMATION

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OSHA Standard 29CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

This product contains a toxic chemical or chemicals subject to the reporting requirements of SECTION 313 of TITLE III of the SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 and 40 CFR PART 372. (See Section III, List Legend 02)

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## XI. PREPARATION INFORMATION

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For additional Non-Emergency health, safety, or environmental information telephone (716) 286-3081, or write to:  
Occidental Chemical Corporation  
Product Stewardship Department  
Suite 400  
360 Rainbow Boulevard South  
Niagara Falls, NY 14302

For Emergencies: 24 HOUR EMERGENCY PHONE: (716) 278-7021

This MSDS replaces MSDS : M4820, dated 02-27-89.

## WARNING LABEL INFORMATION

**SIGNAL WORD: DANGER!**

### STATEMENT OF HAZARDS:

CAUSES SEVERE BURNS TO SKIN, EYES AND MUCOUS MEMBRANES.  
CONTACT WITH EYES CAN CAUSE PERMANENT EYE DAMAGE.  
INHALATION OF DUST, MIST, OR SPRAY CAN CAUSE SEVERE LUNG DAMAGE.  
CAN REACT VIOLENTLY WITH WATER, ACIDS, AND OTHER SUBSTANCES.

### PRECAUTIONARY STATEMENTS:

Do not get into eyes, on skin, on clothing.  
Avoid breathing dust, mist, or spray.  
Do not take internally.  
Use with adequate ventilation and employ respiratory protection when exposure to dust, mist or spray is possible.  
When handling, wear chemical splash goggles, face shield, rubber gloves, and protective clothing.  
Wash thoroughly after handling or contact - exposure can cause burns which are not immediately painful or visible.  
Keep container closed.  
Product can react violently with water, acids, and other substances - read Handling and Storage instructions below carefully before using.  
Product is corrosive to tin, aluminum, zinc and alloys containing these metals, and will react violently with these metals in powder form.  
Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI Z114.1-1977).

### FIRST AID:

#### IN CASE OF CONTACT:

##### FOR EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. Washing eyes within several seconds is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

##### FOR SKIN:

IMMEDIATELY wash contaminated areas with plenty of water for at least 15 minutes. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. SEEK MEDICAL ATTENTION IMMEDIATELY.

##### IF INHALED:

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION.

##### IF SWALLOWED:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. If available, give several glasses of milk. If vomiting occurs spontaneously, keep airway clear. SEEK MEDICAL ATTENTION IMMEDIATELY.

### IN CASE OF:

#### SPILL OR LEAK:

Leaks should be stopped. Spills, after containment, should be shoveled up or removed by vacuum truck (if liquid) to chemical waste area. Neutralize residue with dilute acid, flush spill area with water followed by liberal covering of sodium bicarbonate. Dispose of wash water and spill by-products according to federal, state, and local regulations.



## WARNING LABEL INFORMATION (Continued)

### HANDLING AND STORAGE:

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Product can react EXPLOSIVELY with acids, aldehydes, and many other organic chemicals - when mixing product with solutions containing such chemicals, follow all of above mixing instructions, and add product very gradually, while stirring constantly.

ALWAYS empty and clean containers of all residues before adding product, to avoid possible EXPLOSIVE reaction between product and unknown residue.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state, and DOT regulations. All residual caustic soda should be removed from containers prior to disposal.

### DISPOSAL

The materials resulting from clean-up operations may be hazardous wastes and, therefore, subject to specific regulations. Package, store transport, and dispose of all clean-up materials and any contaminated equipment in accordance with all applicable federal, state, and local health environmental regulations. Shipments of waste materials may be subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of each waste material and should be performed by competent and properly permitted contractors. Ensure that all responsible federal, state, and local agencies receive proper notification of disposal.

### INFORMATION REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS:

This product contains:

CAS#	NAME
1310732	Sodium hydroxide (Na(OH))

HMIS RATING SYSTEM: HEALTH 3	FLAMMABILITY 0	REACTIVITY 2
FOR INDUSTRIAL USE ONLY	LABEL	059M4820